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Description of *Sabra harpagula euroista* Park, ssp. n. from Korea (Lepidoptera: Drepanidae)

H.-L. Han, S.-Y. Park, B.-W. Lee & K.-T. Park

Abstract

Sabra harpagula euroista Park, ssp. n. is described from the Korean peninsula. The subspecies in Korea has been known as the Japanese subspecies, *Sabra harpagula olivacea* (Inoue, 1958), due to a misidentification. The male genitalia are illustrated and compared to those of the nominated subspecies in the northern region of China and *olivacea* (Inoue) in Japan.

KEY WORDS: Lepidoptera, Drepanidae, *Sabra*, taxonomy, new subspecies, Korea.

Descripción de *Sabra harpagula euroista* Park, ssp. n. de Corea (Lepidoptera: Drepanidae)

Resumen

Se describe de la península de Corea *Sabra harpagula euroista* Park, ssp. n.. Se ha conocido la subespecie de Corea como la subespecie japonesa, *Sabra harpagula olivacea* (Inoue, 1958), por un error en la identificación. Se representa la genitalia del macho, comparándose con la de la subespecie nominal en la región norte de China y *olivacea* (Inoue) en Japón.

PALABRAS CLAVE: Lepidoptera, Drepanidae, *Sabra*, taxonomía, nueva subespecie, Corea.

Introduction

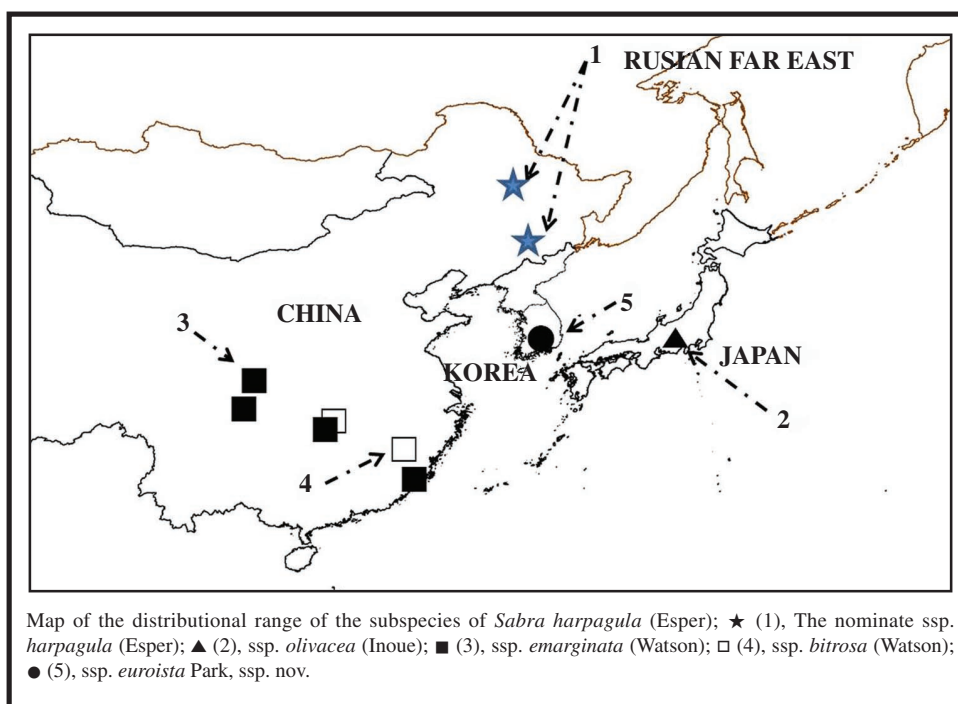
The genus *Sabra* Bode, 1907 has been a monotypic genus of the family Drepanidae. INOUE (1962) described *Palaeodrepana* for three species (*binaria* Hufnagel, 1769, *cultraria* Fabricius, 1775, and *harpagula* Esper, 1786), based on the type species, *Bombyx harpagula* Esper as same as that of *Sabra* Bode, but it was synonymized with *Sabra* by FLETCHER (1979). WATSON (1968) noted that *binaria* and *cultraria* may not be properly placed in this genus and are in need of further study. The species *harpagula* Esper is composed of four subspecies including the nominate subspecies: the nominate subspecies, occurs from the western part of the Palearctic Region to northern China, including Heilongjiang and Jilin provinces; two subspecies are reported in China; *Sabra harpagula emarginata* (Watson, 1968) from Hubei, Zhejiang, and Fujian, and *Sabra harpagula bitorosa* (Watson, 1968) from Hubei, Shaanxi, Sichuan, and Fujian (WATSON, 1968; CHU & WANG, 1987, 1991), and the subspecies *Sabra harpagula olivacea* (Inoue, 1958) is known in Japan.

In the Korean peninsula, the species has been known as the same subspecies as that of Japan, *Sabra harpagula olivacea* (Inoue, 1958), but in the present work, it was found that the Korean population differs from that of Japan, with considerable difference in the male genital characters (as in the following diagnosis). The new subspecies is more closely allied to the nominate subspecies, *S. harpagula* (Esper) which is also known in the northern part of China. However, it is differentiated from the latter by the genital characters and described as a new subspecies, *Sabra harpagula euroista* Park, ssp. n.

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Systematic partGenus *Sabra* Bode, 1907*Sabra* Bode, 1907. *Mitt. Roermus. Hildesh.*, 22: 22; Park & Shin, 1981: 615Type-species: *Bombyx harpagula* Esper, 1786: 373. Type locality: Germany
= *Palaeodrepana* Inoue, 1962Type-species: *Bombyx harpagula* Esper, 1786

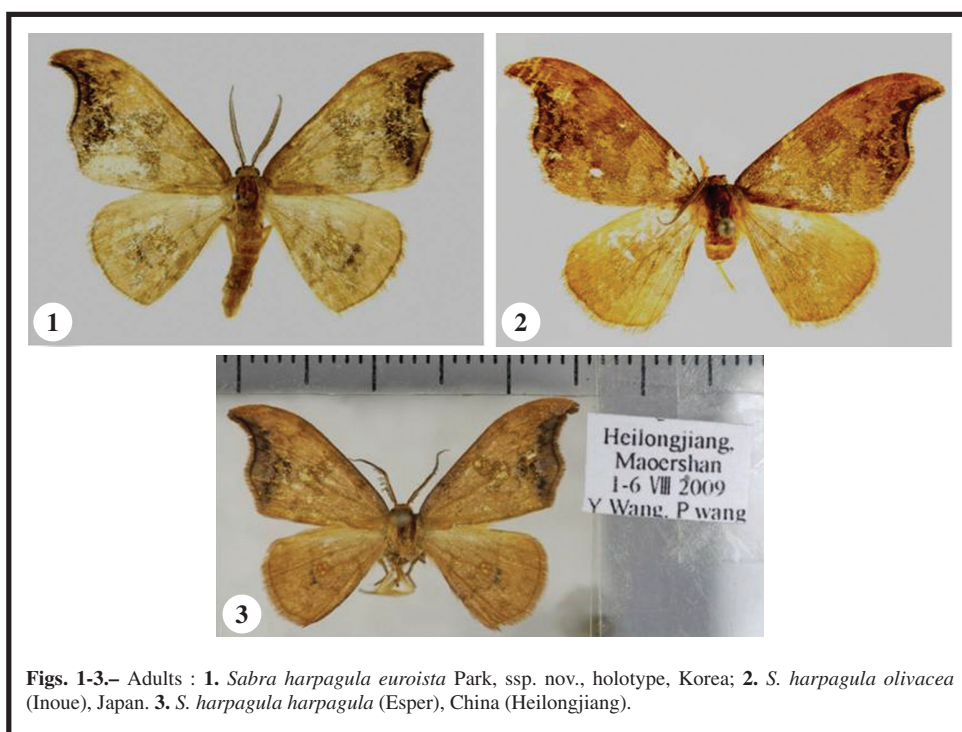
This genus is the closest ally of *Didymana* Bryk, 1943, which is known from Myanmar, by having similar external and genital features. It is characterized by the strongly falcate forewing with costa strongly arched near apex, and the venation which is nearly the same as that of *Drepana*. The antennae are bipectinate in the male and simple in the female, the hindwing has $Sc+R_1$ close to R_s and then gradually diverging; and the hind tibia has two pairs of spurs. The distributional range of the species is extended from Europe (it is also represented in Britain) to north-eastern Asia, including N. China and the Russian Far East.

***Sabra harpagula euroista* Park, subsp. n.***Sabra harpagula olivacea*; Park & Shin, 1981: 616; Park *et al.*, 2001: 29 (misid.).

Type material: Holotype ♂, Korea: Mt. Beakseog-bong, Jeongseon, Gangweon Prov., 19-V-2009 (Byun, Park, & Lim), gen. slide no. NA-3011. Paratypes: 2 ♂♂, same data as the holotype, gen. slide no. NA-3047; 2 ♂♂, same locality, 14-VI-2010 (Park, Lim, & Byun); 1 ♂, Chuncheon, 28-V-2004 (Choi & Park); 1 ♂, Gangleung, 21-V-2003 (Han, Cuong, & Jeon); 1 ♂, Mt. Odae-san, 26-V-1989 (Park), gen. slide no. NA-3023.

DESCRIPTION OF *SABRA HARPAGULA EUROISTA* PARK, SSP. N. FROM KOREA

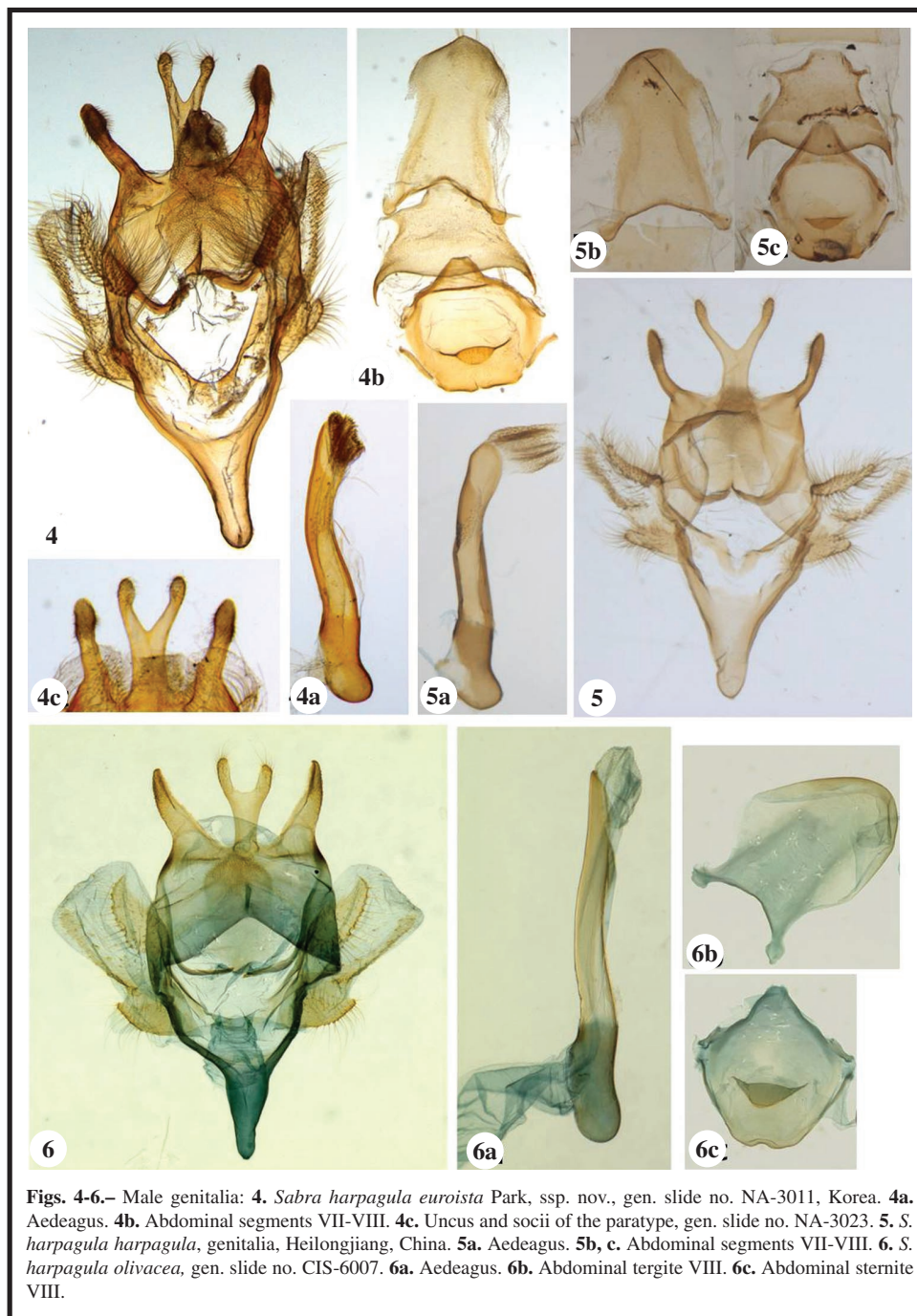
Description: Male (Fig. 1). Wing expanse 34-38 mm. The external morphological characters have practically no remarkable differences from those of the nominate subspecies and from the Japanese subspecies, *S. olivacea* (Inoue). Antenna about 2/3 length of forewing; bipectinate in male, pectenes becoming shorter beyond 2/3 length. Forewing strongly falcate beyond apex; ground color pale brownish yellow, often orange white; subbasal line slightly oblique, serrate; median fascia large, brownish yellow; postmedian line serrate; dark brown scales irregularly scattered between postmedian line and submarginal line medially; costa strongly arched near apex; termen angled at end of CuA_1 , with a distinct blackish line along margin from apex to middle. Hindwing ground color the same as forewing; cross lines well-developed; postmedian line with two round, black spots medially; subterminal line zigzagged, orange white; termen round; $Sc+R_1$ close to Rs , thence gradually diverging. Hind tibia with two pairs of short spurs; median spurs very close to terminal ones.



Figs. 1-3.— Adults : 1. *Sabra harpagula euroista* Park, ssp. nov., holotype, Korea; 2. *S. harpagula olivacea* (Inoue), Japan. 3. *S. harpagula harpagula* (Esper), China (Heilongjiang).

Male genitalia (Figs. 4, 4a): Uncus bifurcate beyond half, deeply incised, V-shaped; basal stalk broad, slightly longer than lateral arms; lateral arms more or less clavate with round apices. Socius digitate, shorter than uncus, never exceeding apex of uncus. Gnathos tongue-shaped, nearly quadrate, densely setose. Valva membranous; median elongate flap with long hairs; ventral margin weakly sclerotized; interior process digitate, slightly curved; sacculus weakly sclerotized, short, triangular, densely setose. Saccus elongate with round anterior margin. Aedeagus rather stout, longer than uncus plus tegumen, slightly sigmoid, with a bundle of rows of minute spinules in vesica apically. Abdominal sternite VII nearly pentagonal, strongly convex medially on posterior margin, anterior margin slightly emarginated at middle, with a more or less semioval free flap medially; sternite VIII nearly trapezoidal, with sharply acute lateral processes at both sides of anterior margin; tergite VIII elongate, with round posterior margin; anterior margin deeply emarginated medially, with short lateral processes (Fig. 4b).

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DESCRIPTION OF SABRA HARPAGULA EUROISTA PARK, SSP. N. FROM KOREA

Distribution: Korean peninsula.

Etymology: The name is derived from Greek: *eúgo* (*euro* = east) with a Greek superlative ending, *-ista*.

Diagnosis: The new subspecies is distinguished from the Japanese subspecies, *olivacea* (Inoue), by the forewing with less acute apex and the outer margin which is more sharply angled medially. The male genitalia are easily differentiated by the following characters: uncus with broader basal stalk and longer lateral arms, caudal margin more or less concave in V-shaped, socius digitate, not exceeding the apex of uncus; while in *olivacea*, basal stalk of uncus is more slender and lateral arms shorter, caudal margin concave in U-shaped, socius with broader basal part, narrowing toward apex with acute apex. The abdominal segments VII-VIII are similar, but a slight difference is found as shown in figures 4b and 6b-c. This new subspecies is also differentiated from the nominate subspecies by having stouter and clavate lateral arms of the uncus, directed towards postrad, the socius stouter, and the anterior margin of the abdominal tergite VIII deeply emarginated at middle (Fig. 4b), while in the nominate subspecies, the lateral arms are slenderer, directed laterad, the socius slender, and the anterior margin of tergite VIII is gently concave in figure 5b.

Remarks: In Korea, the species has long been known and cited as being the same as the Japanese subspecies, *S. harpagula olivacea* (Inoue, 1958) (PARK & SHIN, 1981, from Mt. Deogyu-san, Jeonbuk Province; PARK *et al.*, 2001, from Mt. Kumkang-san and Mt. Myohyang-san from N. Korea). For this study, the Korean material was compared with the nominate subspecies collected from northern China, Heilongjiang Province (2 ♂♂, China, Maorshan, Heilongjiang Prov., 4-VIII-1974, S. Y. Fang; 2 ♂♂, Maorshan, Heilongjiang Prov., 1-6-VIII-2009, Y. Wang, P. Wang) and a considerable difference between them was found and described as a new subspecies. On the other hand, *Palaeodrepana sinica* Yang, 1978 and *P. taibaishanensis* Chou & Xiang, 1987 were described from China. They are very similar to the known subspecies of *harpagula*, and it is considered that they are synonyms of the known subspecies (*emarginata* Watson, 1968 or *bitrosa* Watson, 1968) from China. However, they have not been treated or cited as subspecies of *Plaeodrepana harpagula* from China in the comprehensive revision of Drepanidae by CHU & WANG (1991). Further study is needed to clarify their specific status when material is available.

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